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ORGANIZATION OF FREIGHT FLOWS AT LARGE USSR RAIL CENTERS

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In the organization of freight flows at large rail centers, the specialization of stations according to the type of freight and the routing is very important. The most expedient arrangement for large rail centers is to have some stations handle specific freight, and other stations handle all types of freight according to a specific routing. Under this arrangement, stations for specific types of freight are located in the areas of the basic enterprises and organizations receiving those types and have the best connection with trunk lines. The other stations are named to handle carload and less-than-carload consignments hauled over the adjoining trunk lines.

Systems of allocating freight stations at most of the large rail centers have adopted such a specialization. However, this type of specialization is still not completely developed. Several years ago, the partial specialization of several stations of the Moscow rail center was introduced. Some stations were concentrating on the unloading of coal; others, on wood, cement, and other materials. This measure was not supported by a strict specialization of the remaining freight stations in regard to routing, even though the circular arrangement of the rail center was well suited for this.

On each of the main lines coming into the Moscow rail center, there are one or two freight stations within the city. These stations perform a considerable part of their freight operations on general-use tracks. These stations, as a rule, receive freight for dispatching in any direction, not just over the adjoining lines. Likewise, the freight cars unloaded at these stations arrive over all lines leading into the Moscow rail center.

Moskva-Tovarnaya Station of the Northern Railroad System is an example. Of the general volume of freight shipped by clientele without sidings, only 45 percent goes in the direction of Aleksandrov; the remaining freight goes in other directions. Cars shipped in other directions are sent to Losinoostrovskaya Station, Northern Railroad System; they create an angular flow there and are reprocessed on two classification humps. Then, by the connecting sidings and the Moscow Inner-Belt Line, they are sent to appropriate dispatching stations where they are processed again. Of the cars loaded at Moskva-Tovarnaya Station, Northern Railroad System, those not going toward Aleksandrov are sent from the rail center with two extra switchings and an extra run of tens of kilometers.

Cars arriving at Moskva-Tovarnaya Station go through the same wasteful movements. Of the freight consigned to recipients without sidings, only 40 percent arrive at Moskva-Tovarnaya Station, Northern Railroad System, from Aleksandrov; the rest arrives over other lines adjoining the Moscow rail center.

The same situation exists at other freight stations of the rail center.

Many cars are subjected to four switching operations at the Moscow rail center before reaching the point of unloading. For example, cars coming from the Gor'kiy Railroad System to Moskva-Tovarnaya Station, October Railroad System, are processed at Kuskovo, Perovo, and twice at the classification humps in Khovrino. At Moskva-Tovarnaya-Paveletskaya Station, two local trains are formed, loaded, and dispatched daily for routing over the Moscow Inner-Belt Line.

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At Mit'kovo and Sokol'niki stations, Moscow-Ryazan' Railroad System, the principles of loading according to routing are being studied. All cars loaded on the general-use tracks at these stations are routed over the Moscow-Ryazan' Railroad System. However, cars arrive at these stations for unloading from all systems coming into the rail center.

Cars arriving from the Moscow Inner-Belt Line first go to Moskva-Sortirovochnaya Station, Moscow-Ryazan' Railroad System, which makes up trains for dispatching in the direction of Ryazan' and Murom. The car flow to Mit'kovo and Sokol'niki stations is angular through Moskva-Sortirovochnaya Station. Special tracks are assigned when there are not enough sorting tracks for the formation of several long-distance trains. As a result, part of this work must be done at Khovrino and Podmoskovnaya, where they now form long-haul through trains for Omsk, Sverdlovsk, and Yudino.

The absence of routing specialization at the freight stations of the Moscow rail center leads to an unnecessary strain on the connecting sidings and sorting stations, causes a reduction in a car's run between switching operation, and results in a slowdown of freight delivery. Unnecessary car runs are tolerated at Kiev, Riga, Khar'kov, and many other large rail centers because of a lack of routing specialization. In Khar'kov alone, loading operations for one particular destination are conducted at three stations: Khar'kov-Tovarnyy, Khar'kov-Balashovskiy, and Khar'kov-Levada.

The situation is different at the Leningrad rail center. The stations accept freight and perform freight operations on general-use tracks only for dispatching over a definite route. The specialized stations are located on the main lines or connecting lines of the rail center. The reception of less-than-carload consignments in the direction of the Kirov and Northern railroad systems is conducted at Okhta Station, October Railroad System. Here, local cars are regularly formed for Murmansk, Petrozavodsk, and Perm'.

In volume, the USSR is the leading container-shipping country in the world. In the next 2 years, this type of hauling in the USSR must increase nearly four times. A considerable amount of the freight now hauled in two-axle boxcars will be hauled in containers. Thus, the organization of container shipment should receive a great deal of attention in perfecting freight flows. Special attention must be paid to the distribution of loading, unloading, and sorting operations among the stations of large rail centers.

In the allocation of this work, the Administration for Container Hauling and Transfer and Forwarding Operations generally considers only the size of container-handling areas. Flatcars often travel throughout the rail center loaded with containers, but any plan of forming trains from these is usually ignored. At the stations of Moskva-Tovarnaya (October Railroad System), Moskva-Tovarnaya-Butyrskaya [Northern Railroad System], Moskva-Tovarnaya-Gor'kovskaya [Moscow-Kursk-Donbass Railroad System], and Moskva-Tovarnaya-Kiyevskaya [Moscow-Kiev Railroad System], containers are accepted for dispatching over their main lines and other lines.

Hundreds of flatcars with containers travel about the rail center for a considerable time before being included into through trains. This additional run could be completely eliminated if the specialization of existing container-handling areas were improved and additional areas were opened at three freight stations of the rail center.

The problem of constructing a container-handling area at one of the metropolitan freight stations of the Moscow-Ryazan' Railroad System is especially pressing. Of all the containers dispatched from Moscow, 30 percent must run over the Moscow-Ryazan' Railroad System to the rail systems of the Urals, Siberia, the Volga region, and Central Asia. However, the personnel of the Office of Freight Operations

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and Planning of Hauling on this system have done nothing for the creation of such a container-handling area.

The Administration for Container Hauling and Transfer and Forwarding Operations of the Ministry of Railways USSR should have provided for the construction of a large area or a specialized container-handling station in the eastern sector of the Moscow rail center a long time ago. This administration still has failed to develop a unified network plan for the formation of flatcars hauling containers to one destination. A method for compiling such a plan was developed several months ago by the Department of Operation of the All-Union Scientific Research Institute of Railroad Transportation and was given to this administration.

A considerable part of railroad hauling begins and ends on sidings adjoining the rail centers. These sidings belong not only to plants and factories but to the numerous bases of trade and supply organizations. The location of these bases is not always the best, which means unnecessary hauling within the rail centers and an increase in the runs of motor vehicles.

In the Moscow area, several fruit bases are located near freight stations of the northern and western sectors. However, fruit is not hauled over the lines adjoining these stations. At the same time, bases for freight arriving from the north are located in the southwestern sector of Moscow.

In the Leningrad rail center, part of the bases for sugar and canned goods are located in the northern sector. Freight for these bases arrives from the south and west, and the transfer of this freight to the northern sector of the rail center involves additional switching of cars at classification stations. The same irrational distribution of bases also exists in Sverdlovsk and Chelyabinsk.

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